FIGURE 1

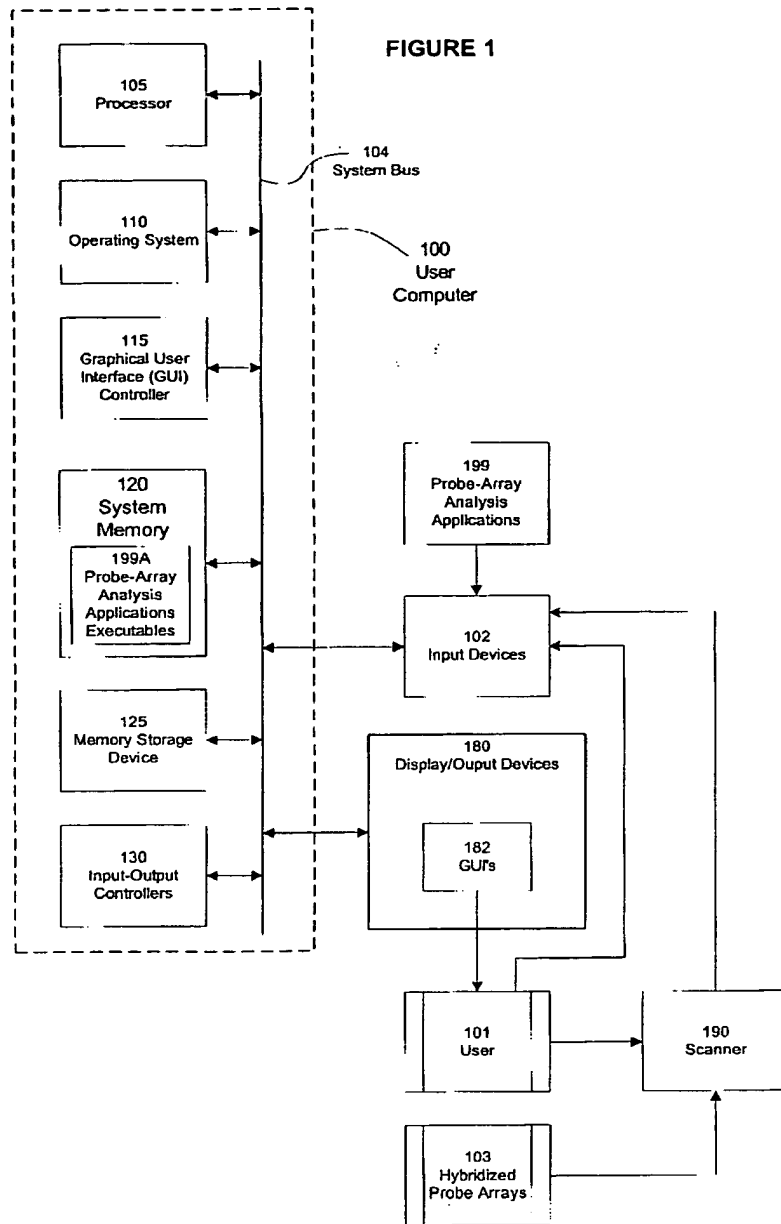**FIGURE 2**

199A
Probe-Array Analysis
Applications Executables
(with related data structures)

212
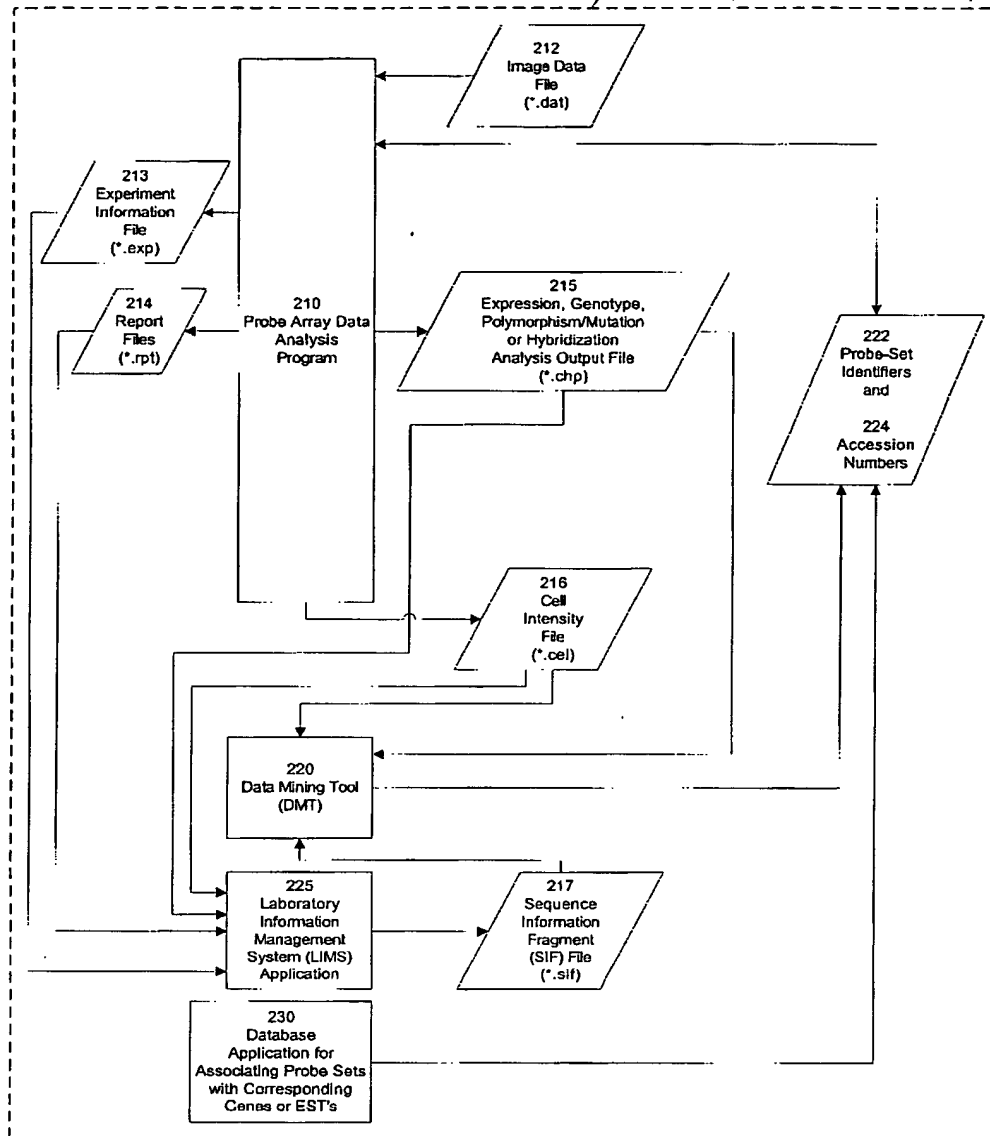Image Data
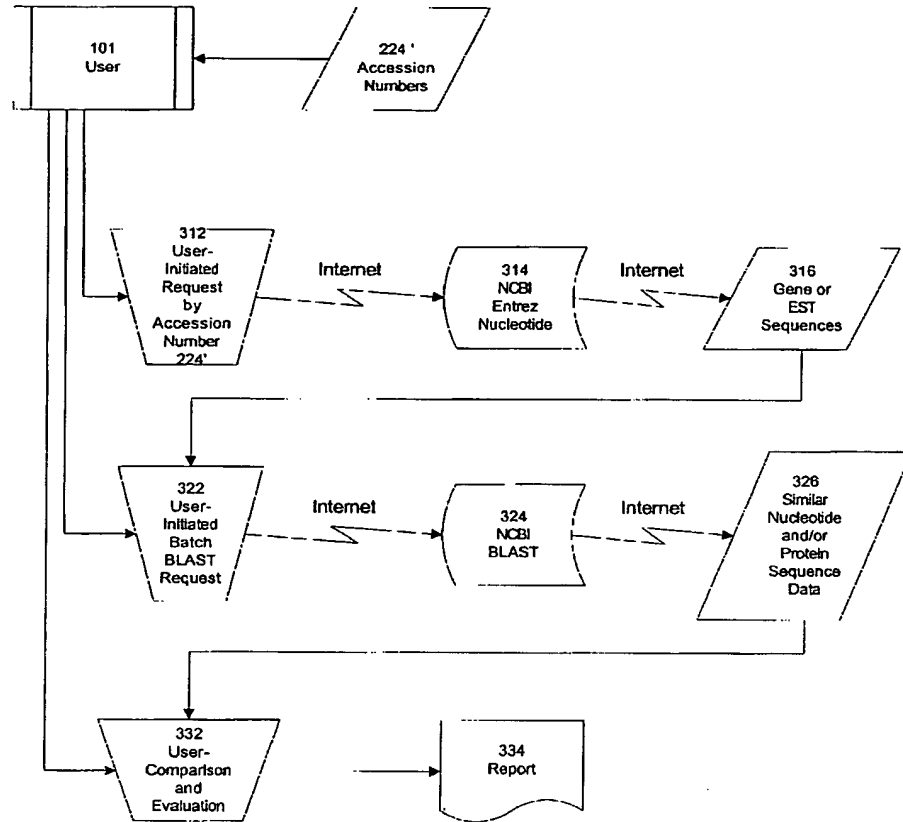File
(*.dat)

213
Experiment
Information
File
(*.exp)

214
Report
Files
(*.rpt)

210
Probe Array Data
Analysis
Program

215
Expression, Genotype,
Polymorphism/Mutation
or Hybridization
Analysis Output File
(*.chp)

222
Probe-Set
Identifiers
and

224
Accession
Numbers

216
Cell
Intensity
File
(*.cel)

220
Data Mining Tool
(DMT)

225
Laboratory
Information
Management
System (LIMS)
Application

217
Sequence
Information
Fragment
(SIF) File
(*.sif)

230
Database
Application for
Associating Probe Sets
with Corresponding
Genes or EST's

FIGURE 3
(PRIOR ART)

FIGURE 4

FIGURE 5

400
Genomic
Portal

510
Database Server

515
Expression Data (e.g., *.chp, *.dat, *.cel files)

511
Probe-Set ID to Sequence Database

514
Local Products Database

516
Local Library Databases (Probe Set to Gene/EST, SIF's, etc.)

512
Database Manager

518
Local Genomic Database (Periodically Updated from Remote Databases)

513
Gene or Probe-Set ID to Products and/or Genomics Databases

519
User Account Database

520
Application Server

526
Portal Application Manager

522
User-Service Manager

524
Integrated Genomic and/or Product Web Pages Responsive to User Request

525
Analysis Applications (e.g., BLAST)

499

404
Remote Vendor Business Systems and Business Servers

410
User-Side Internet Client

499

402
Remote Databases

499

530
Internet Server

532
Input Manager

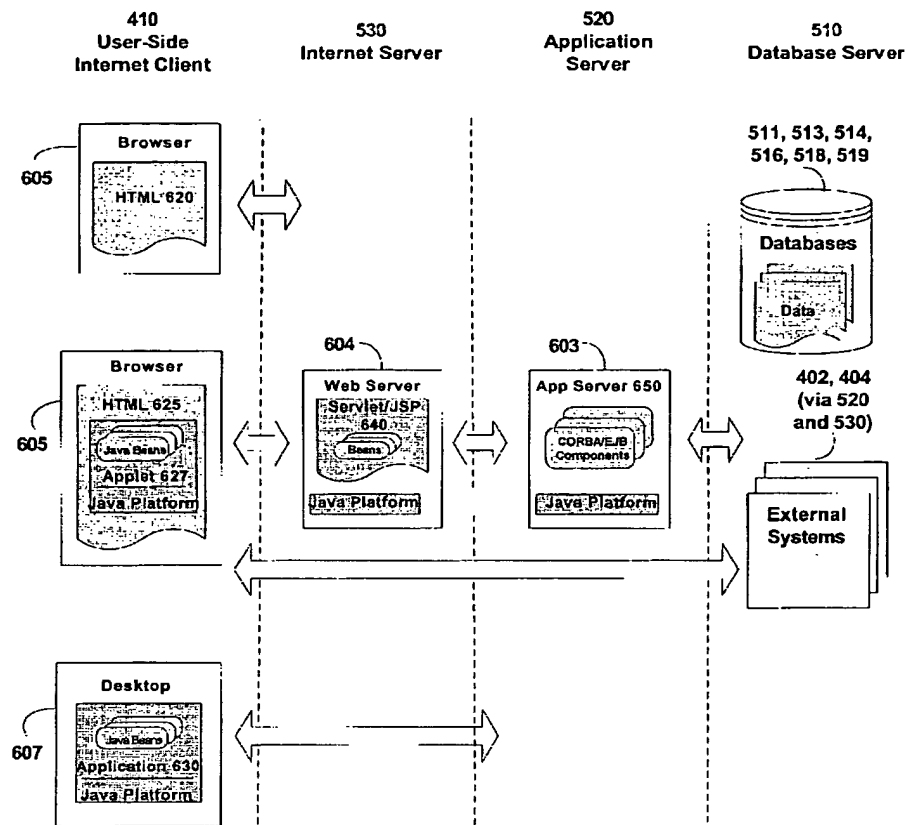and

534
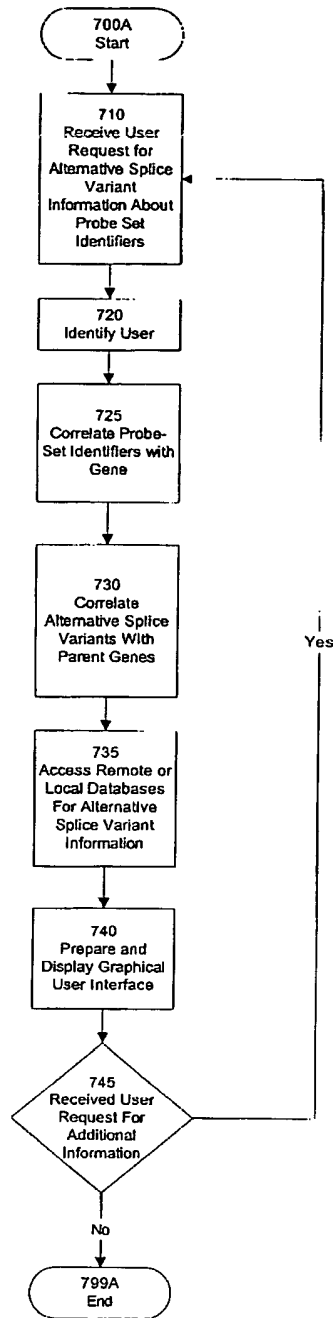Output Manager

FIGURE 6

FIGURE 7A

FIGURE 7B

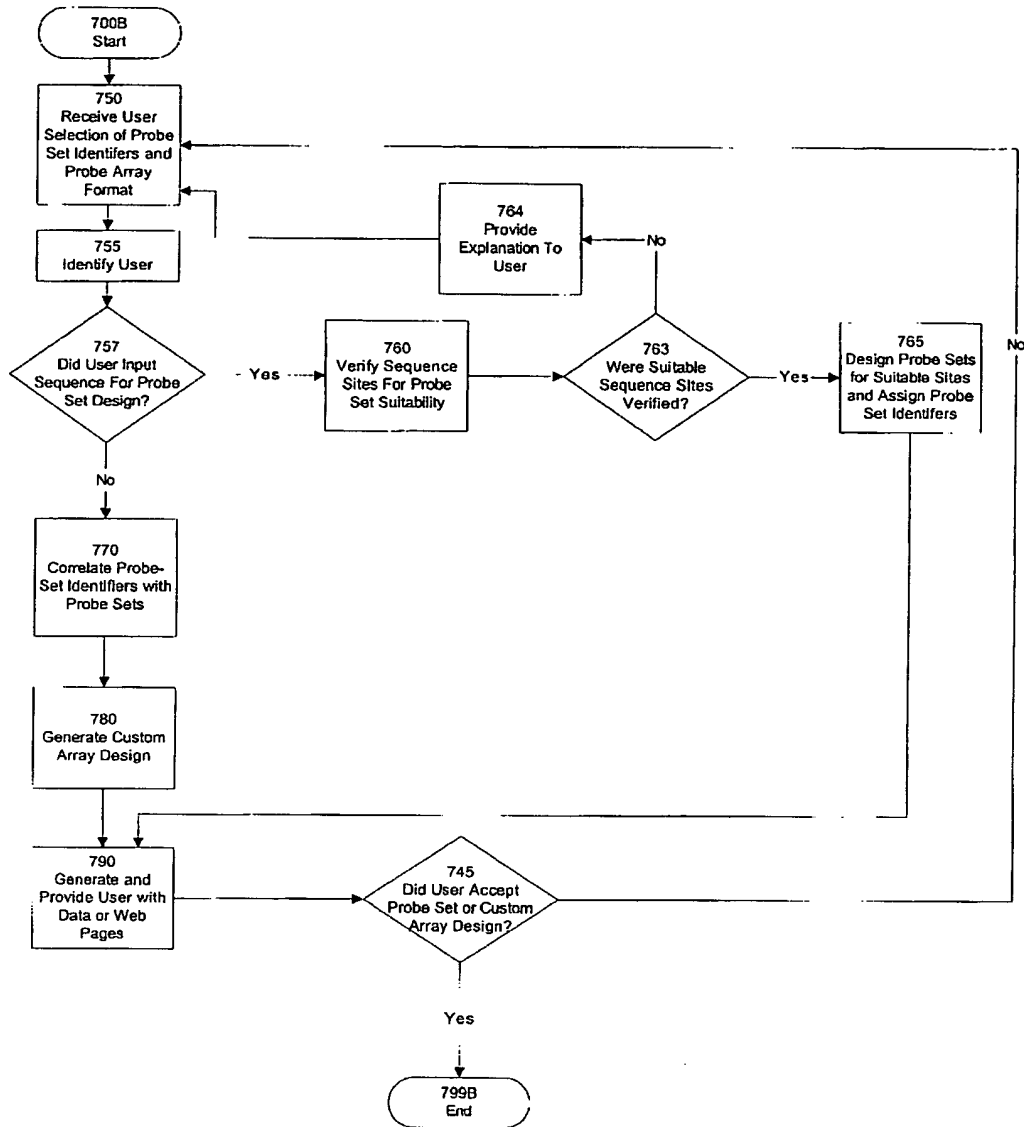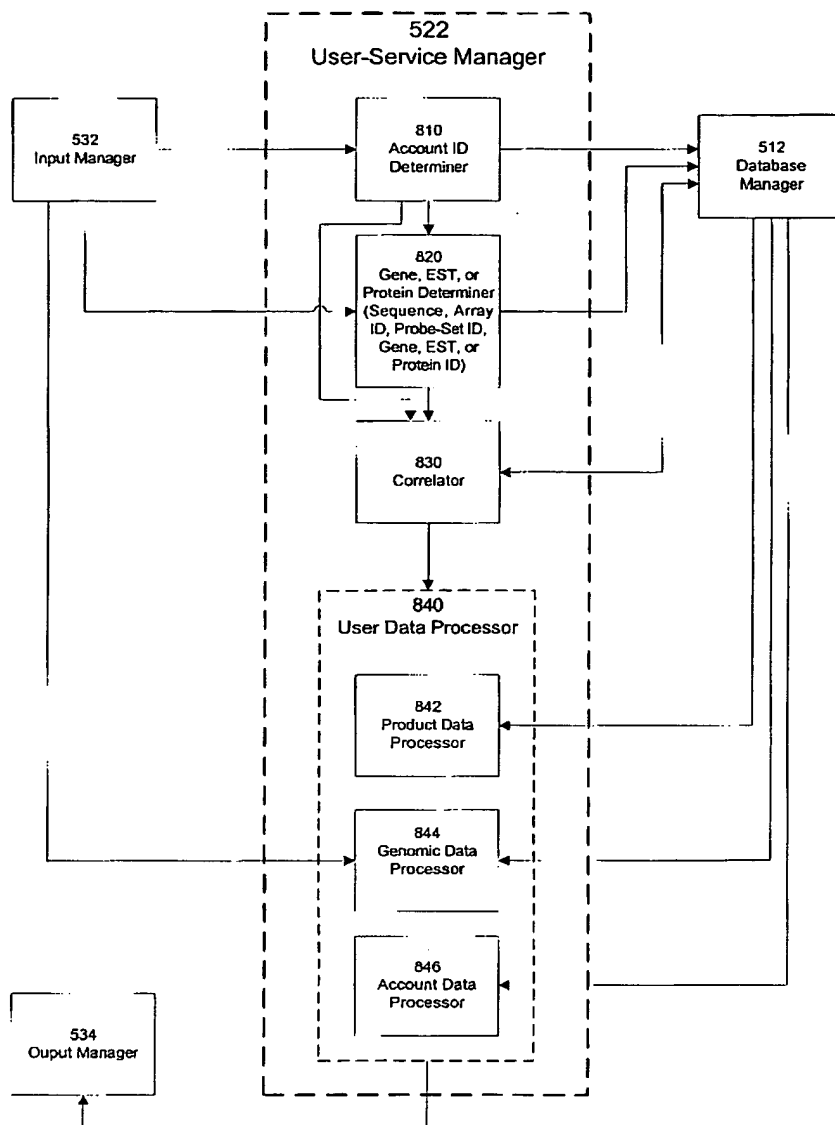**FIGURE 8**

FIGURE 9

513
Gene or Probe-Set ID
to Products and/or
Genomics Databases

902 Gene or EST ID	904 Link to Probe-Set IDS 912
ID 902A	Link 904N
ID 902B	Link 904N
ID 902C	Link 904M

912 Probe-Set ID (accession #, sequence, etc.)	914 Array ID	916 Links to Related Product and/or Genomic Data IDs
Probe-Set 912A	Array 914N	Links 916A
Probe-Set 912B	Array 914N	Links 916B
Probe-Set 912C	Array 914P	Links 916C
Probe-Set 912D	Array 914Q	Links 916D
Probe-Set 912E	Array 914N	Links 916E

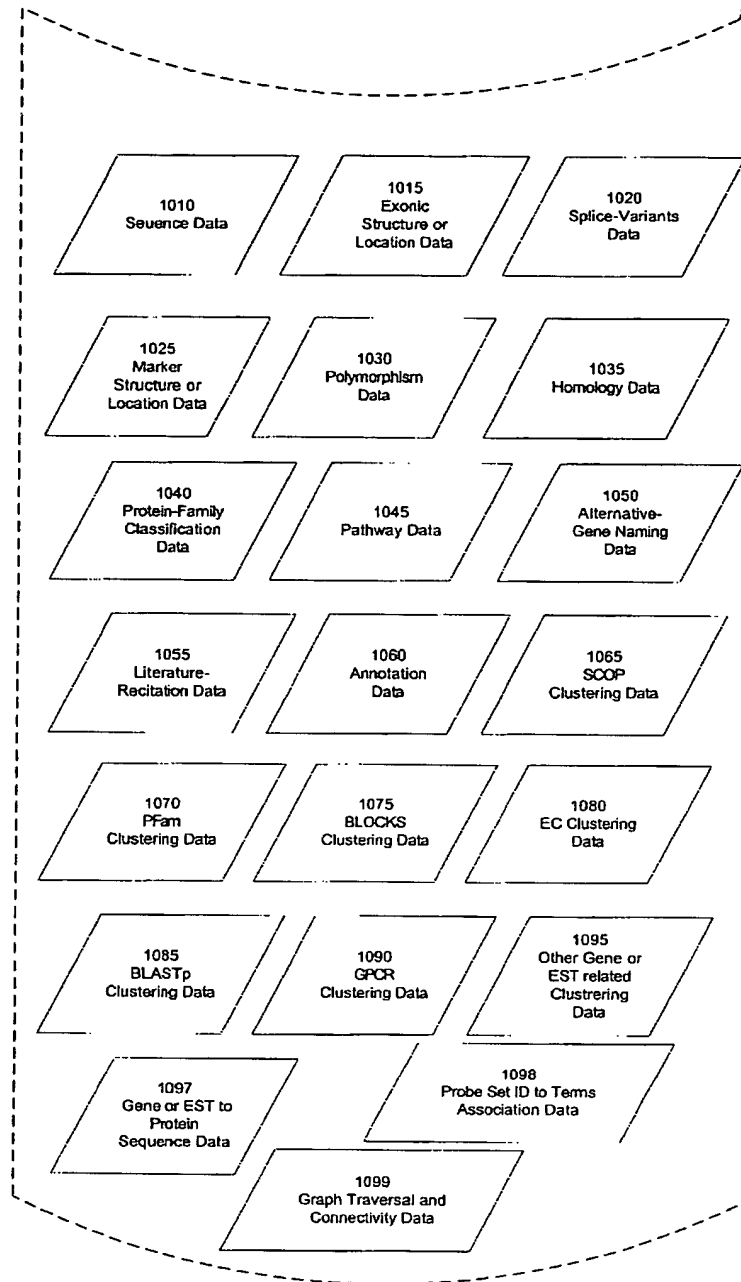| 922 Product and/or Genomic Data ID	924 Link to Local Products Database 514 and/or Genomic Database 518	926 Links to Vendor or Genomic Database Web Pages
Product/Genomic ID 922A	Link 924A	Links 926A
Product/Genomic ID 922B	Link 924B	Links 926B
Product/Genomic ID 922C	Link 924C	Links 926C
Product/Genomic ID 922C	Link 924D	Links 926D
Product/Genomic ID 922D	Link 924E	Links 926E

Figur 10

1010
Seuence Data

1015
Exonic
Structure or
Location Data

1020
Splice-Variants
Data

1025
Marker
Structure or
Location Data

1030
Polymorphism
Data

1035
Homology Data

1040
Protein-Family
Classification
Data

1045
Pathway Data

1050
Alternative-
Gene Naming
Data

1055
Literature-
Recitation Data

1060
Annotation
Data

1065
SCOP
Clustering Data

1070
PFam
Clustering Data

1075
BLOCKS
Clustering Data

1080
EC Clustering
Data

1085
BLASTp
Clustering Data

1090
GPCR
Clustering Data

1095
Other Gene or
EST related
Clustrering
Data

1097
Gene or EST to
Protein
Sequence Data

1098
Probe Set ID to Terms
Association Data

1099
Graph Traversal and
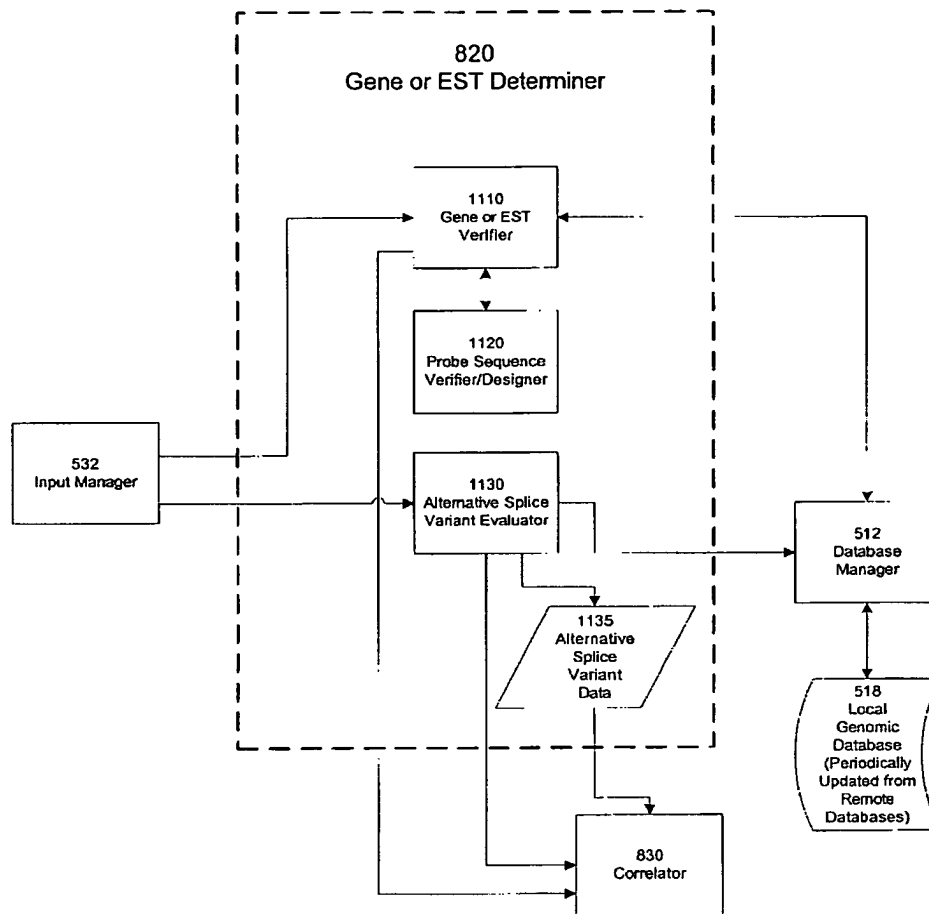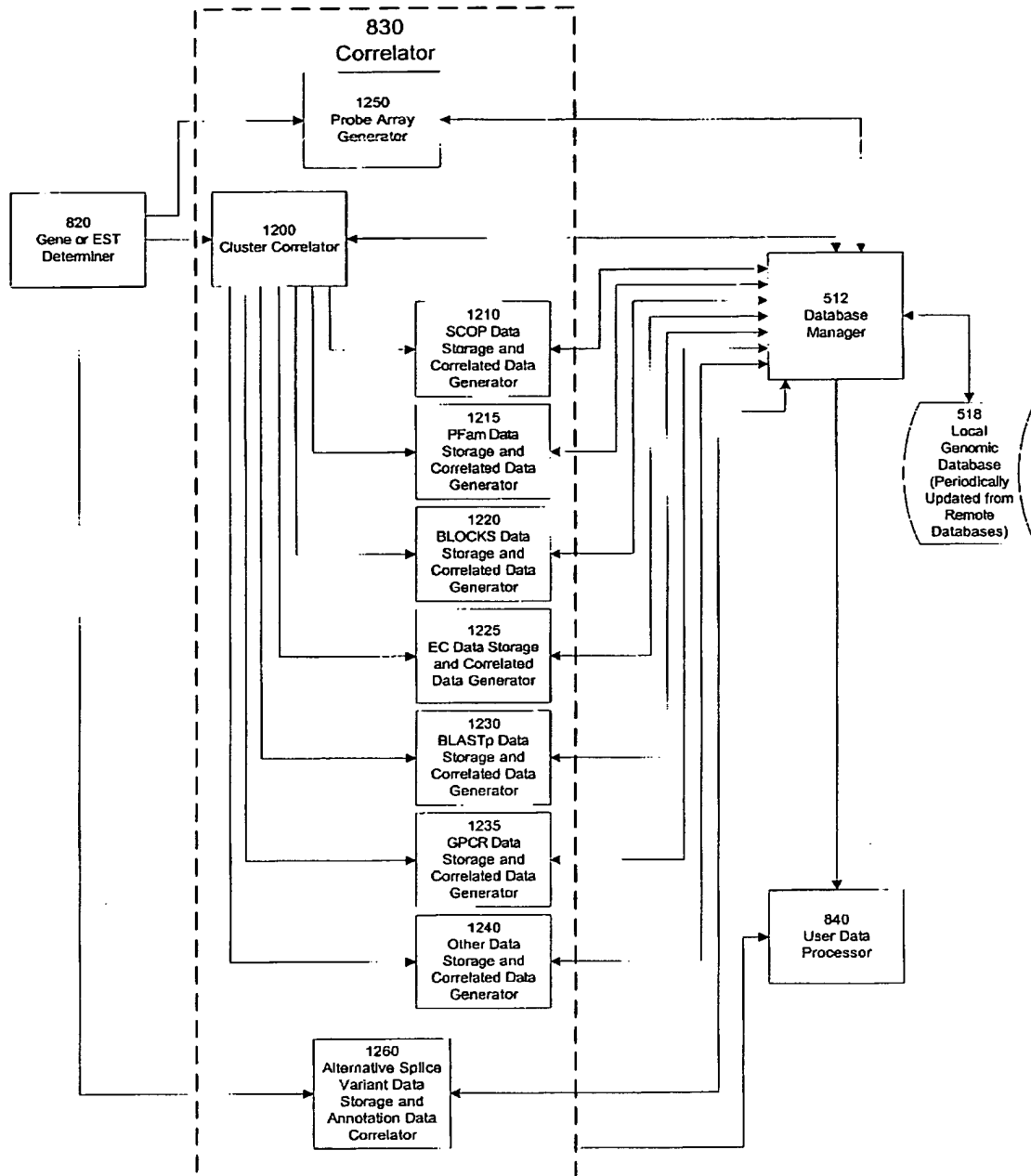Connectivity Data

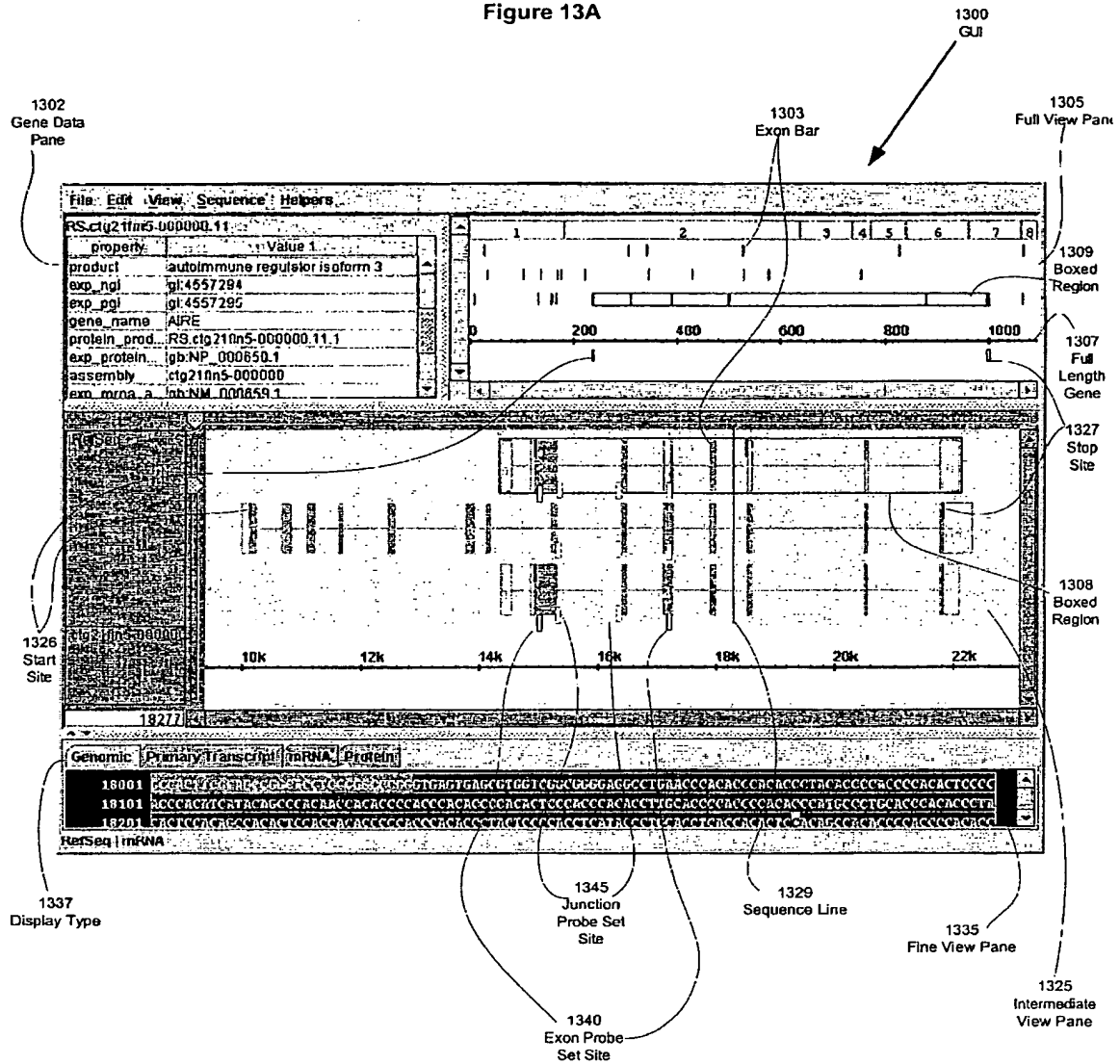**Figure 11**

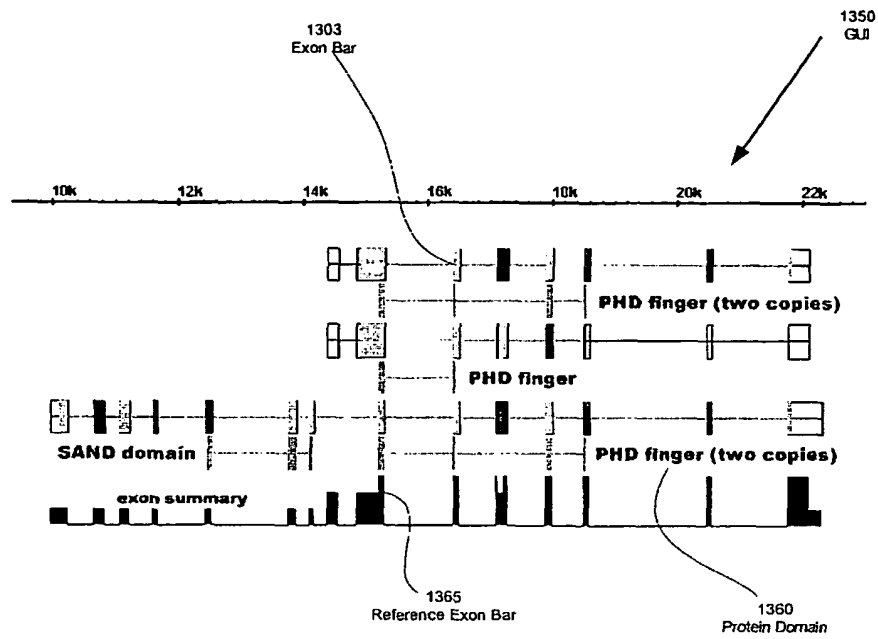Figure 12

Figure 13A

Figure 13B

Figure 14

1400
GUI

Custom Design

Array Description

1405
User Selectable
Description Input Field

Array Name

1410
User Selectable Name
Input Field

Search   Search for Probe Set
         Identifers

1420
Probe Set Identifier
Search Button

Upload   Upload Probe Set Identifers

1425
Probe Set Identifier Upload
Button

Paste Sequence For Verification and Probe Set
Design

1430
User Selected Sequence
Input Field

Shared Probe Array Availability

1440
User Selection Submission
Button

Submit

1435
Shared Probe Array
Availability Field

Figure 15

1500
GUI

Custom Design

Custom Probe Array

1510
Custom Probe Array
Display Field

1520
Custom Probe Set Display
Field

Custom Probe Sets

1530
Production Information
Display Field

Production Information

1540
Accept Design
Submission Button

1550
Reject Design Submission
Button

Accept

Reject